

IN THE CLAIMS:

Claims 1-15 (Canceled)

16. (New) A process for producing a water-absorbent resin, which is a neutralized salt and is obtained by polymerizing at least one monomer component including acrylic acid and/or its salt as major components,

wherein said acrylic acid and/or its salt is produced by a process comprising the steps of

(i) obtaining acrylic acid by catalytic gas-phase oxidation of propylene and/or propane, where the obtained acrylic acid contains impurities and/or byproducts and includes protoanemonin as an impurity or byproduct,

(ii) reducing a protoanemonin content of said acrylic acid to not more than 10 ppm, and then

(iii) subjecting at least 50 mol% of said acrylic acid and/or its salt obtained in step (ii) to an alkali treatment, where the mixture of said acrylic acid and/or its salt and said alkali is a solution containing 0.5 to 20 ppm of oxygen.

17. (New) A process according to claim 16, wherein the acrylic acid has a furfural content of not more than 10 ppm.

18. (New) A process according to claim 16, wherein the alkali treatment is a strong-alkali treatment with an excess of an alkali metal hydroxide.

19. (New) A process according to claim 16, wherein the polymerization is aqueous solution polymerization.

20. (New) A process according to claim 16, which further comprises the step of crosslinking the vicinity of the surface of the water-absorbent resin.

21. (New) A process according to claim 16, further comprising distilling the acrylic acid in the presence of an aldehyde-treating agent to purify the acrylic acid.

22. (New) A process according to claim 21, wherein the aldehyde-treating agent is a hydrazine compound.

23. (New) A water-absorbent resin produced according to the process of claim 16, wherein said water-absorbent resin has a water absorption capacity of not less than 25 g/g under a load (of about 1.96 kPa).

24. (New) A water-absorbent resin produced according to the process of claim 16.

25. (New) A water-absorbent resin according to claim 24, wherein the resultant water-absorbent resin has a liquid permeation quantity of not less than 100 g/g under a load of 0.3 psi over 10 minutes.

26. (New) A process for producing a water-absorbent resin, which is a neutralized salt and is obtained by polymerizing at least one monomer component including acrylic acid and/or its salt as major components,

wherein said acrylic acid and/or its salt has a protoanemonin content of not more than 10 ppm and is produced by a process comprising the steps of

(i) obtaining acrylic acid by catalytic gas-phase oxidation of propylene and/or propane, where the obtained acrylic acid contains impurities and/or byproducts and contains not less than 10 ppm of an aldehyde as an impurity or a byproduct, and then

(ii) subjecting said acrylic acid and/or its salt to a strong alkali treatment with an alkali metal hydroxide, where the mixture of acrylic acid and/or its salt and alkali is a solution containing 0.5 to 20 ppm of oxygen, thus reducing an aldehyde content in said acrylic acid and/or its salt to not more than 10 ppm.

27. (New) A process according to claim 26, wherein the strong-alkali treatment is carried out at a temperature of not lower than 40°C.

28. (New) A process according to claim 26, wherein the strong-alkali treatment comprises treating the raw acrylic acid with a molar excess of said strong alkali.

29. (New) A process according to claim 26, further comprising the step of purifying the acrylic acid to reduce the protoanemonin content to not more than 10 ppm followed by the strong alkali treatment.

30. (New) A process for producing a water-absorbent resin having a neutralization of not less than 50 mol% and being obtained by polymerizing at least one monomer component including acrylic acid and/or its salt as major components,

wherein said acrylic acid and/or its salt has a protoanemonin content of not more than 10 ppm and is produced by a process comprising the steps of

(i) obtaining acrylic acid by gas-phase oxidation of propylene and/or propane, where said obtained acrylic acid contains impurities and/or byproducts and includes protoanemonin as an impurity or byproduct, and then

(ii) distilling said acrylic acid in the presence of a hydrazine compound aldehyde-treating agent, thus obtaining said acrylic acid having a protoanemonin content of not more than 10 ppm.

31. (New) A water-absorbent resin, which is a neutralized salt and is obtained by polymerizing at least one monomer component including acrylic acid and/or its salt as major components and having a protoanemonin content of not more than 10 ppm,

wherein said acrylic acid and/or its salt is produced by a process comprising the steps of

(i) obtaining acrylic acid by catalytic gas-phase oxidation of propylene and/or propane, where the obtained acrylic acid contains impurities and/or byproducts and includes protoanemonin as an impurity or byproduct,

(ii) reducing the protoanemonin content in acrylic acid of step (i) to not more than 10 ppm, and then

(iii) subjecting at least 50 mol% of said acrylic acid and/or its salt to an alkali treatment, where the mixture of acrylic acid and/or its salt and the alkali is a solution containing 0.5 to 20 ppm of oxygen.

32. (New) A water-absorbent resin according to claim 31, wherein the acrylic acid has a furfural content of not more than 10 ppm.

33. (New) A water-absorbent resin according to claim 31, wherein the alkali treatment is a strong-alkali treatment with an excess of an alkali metal hydroxide.

34. (New) A water-absorbent resin according to claim 31, wherein the polymerization is aqueous solution polymerization.

35. (New) A water-absorbent resin according to claim 31, wherein said process further comprises the step of crosslinking the vicinity of the surface of the water-absorbent resin.

36. (New) A water-absorbent resin according to claim 31, wherein the resultant water-absorbent resin has a water absorption capacity of not less than 25 g/g under a load (of about 1.96 kPa).

37. (New) A water-absorbent resin according to claim 31, wherein said process further comprises distilling the acrylic acid in the presence of an aldehyde-treating agent to purify the acrylic acid.

38. (New) A water-absorbent resin according to claim 31, wherein the aldehyde-treating agent is a hydrazine compound.

39. (New) A water-absorbent resin according to claim 31, wherein the resultant water-absorbent resin has a liquid permeation quantity of not less than 100 g/g under a load of 0.3 psi over 10 minutes.

40. (New) A water-absorbent resin, which is a neutralized salt and is obtained by polymerizing at least one monomer component including acrylic acid and/or its salt as major components and having a protoanemonin content of not more than 10 ppm,

wherein said acrylic acid and/or its salt has a protoanemonin content of not more than 10 ppm and is produced by a process comprising the steps of

(i) obtaining acrylic acid by catalytic gas-phase oxidation of propylene and/or propane, where the obtained acrylic acid contains impurities and/or byproducts and contains not less than 10 ppm of an aldehyde as an impurity or a byproduct, and then

(ii) subjecting said acrylic acid and/or its salt obtained in step (i) to a strong alkali treatment with an alkali metal hydroxide, where the mixture of acrylic acid and/or its salt and alkali is a solution containing 0.5 to 20 ppm of oxygen, thus reducing an aldehyde content in said acrylic acid and/or its salt to not more than 10 ppm.

41. (New) A water-absorbent resin according to claim 40, wherein the strong-alkali treatment is carried out at a temperature of not lower than 40°C.

42. (New) A water-absorbent resin according to claim 40, wherein the strong-alkali treatment comprises treating the raw acrylic acid with a molar excess of said strong alkali.

43. (New) A water-absorbent resin according to claim 40, wherein said process further comprises the step of purifying the acrylic acid to reduce the protoanemonin content to not more than 10 ppm followed by the strong alkali treatment.

44. (New) A process for producing a water-absorbent resin having a neutralization of not less than 50 mol% and being obtained by polymerizing at least one monomer component including acrylic acid and/or its salt as major components and having a protoanemonin content of not more than 10 ppm,

wherein said acrylic acid and/or its salt is produced by a process comprising the steps of

(i) obtaining acrylic acid by gas-phase oxidation of propylene and/or propane, where said obtained acrylic acid contains impurities and/or byproducts and includes protoanemonin as an impurity or byproduct, and then

(ii) distilling said acrylic acid obtained in step (i) in the presence of a hydrazine compound aldehyde-treating agent, thus obtaining said acrylic acid having a protoanemonin content of not more than 10 ppm.